

CLAIMS

1. An information processing apparatus operating in synchronism with a synchronizing clock signal of a predetermined frequency, said information processing apparatus comprising:

clock outputting means for varying said frequency of said synchronizing clock signal in order to output said synchronizing clock signal at the varied frequency;

holding means for inputting and holding data when said clock outputting means outputs a first clock signal pulse, said holding means further outputting said data held therein when said clock outputting means outputs a second clock signal pulse following said first clock signal pulse;

selection command generating means for generating a selection command specifying whether or not to transfer said data by bypassing said holding means in accordance with the frequency of said synchronizing clock signal output by said synchronizing clock outputting means; and

bypassing means for outputting said data by bypassing said holding means if said selection command generated by said selection command generating means specifies that said data be transferred by bypassing said holding means, said bypassing means further outputting

said data output by said holding means if said selection command specifies that said data be transferred without bypassing said holding means.

2. An information processing apparatus according to claim 1, further comprising a plurality of groups each made up of said holding means and said bypassing means connected in that order, said plurality of groups being connected in cascaded fashion.

3. An information processing apparatus according to claim 1, further comprising data processing means for performing a predetermined process on said data;

wherein said holding means inputs, holds, and outputs said data having undergone said process performed by said data processing means; and

wherein said bypassing means outputs said data having undergone said process performed by said data processing means by bypassing said holding means if said selection command specifies that said data be transferred by bypassing said holding means, said bypassing means further outputting said data which, having undergone said process performed by said data processing means, was input to, held in, and output by said holding means if said selection command specifies that said data be transferred without bypassing said holding means.

4. An information processing apparatus according to claim 1, further comprising stop controlling means for exercising control to stop processing of said holding means if said selection command generated by said selection command generating means specifies that said data be transferred by bypassing said holding means.

5. An information processing apparatus according to claim 1, wherein said selection command generating means further generates frequency information corresponding to said frequency of said synchronizing clock signal output by said synchronizing clock outputting means, before generating said selection command based on the generated frequency information.

6. An information processing apparatus according to claim 1, wherein said selection command generating means further receives frequency information which is supplied from an external source and which corresponds to said frequency of said synchronizing clock signal output by said synchronizing clock outputting means, before generating said selection command based on the received frequency information.

7. An information processing method for use with an information processing apparatus which operates in synchronism with a synchronizing clock signal of a

predetermined frequency and which comprises a clock outputting device, a holding device and a bypassing device;

wherein said clock outputting device varies said frequency of said synchronizing clock signal in order to output said synchronizing clock signal at the varied frequency;

wherein said holding device inputs and holds data when said clock outputting device outputs a first clock signal pulse, said holding device further outputting said data held therein when said clock outputting device outputs a second clock signal pulse following said first clock signal pulse; and

wherein said bypassing device includes a first input block for inputting said data by bypassing said holding device, a second input block for inputting said data output by said holding device, and an output block for outputting said data having been input to one of said first input block and said second input block;

said information processing method comprising the steps of:

generating a selection command specifying whether or not to transfer said data by bypassing said holding device in accordance with the frequency of said

synchronizing clock signal output by said synchronizing clock outputting device; and

exercising control so as to cause said bypassing device to output from said output block said data having been input to said first input block if said selection command generated in said selection command generating step specifies that said data be transferred by bypassing said holding device, and further to cause said bypassing device to output from said output block said data having been input to said second input block if said selection command specifies that said data be transferred without bypassing said holding device.

8. A program for use with a computer for controlling an information processing apparatus which operates in synchronism with a synchronizing clock signal of a predetermined frequency and which comprises a clock outputting device, a holding device and a bypassing device;

wherein said clock outputting device varies said frequency of said synchronizing clock signal in order to output said synchronizing clock signal at the varied frequency;

wherein said holding device inputs and holds data when said clock outputting device outputs a first clock

signal pulse, said holding device further outputting said data held therein when said clock outputting device outputs a second clock signal pulse following said first clock signal pulse; and

wherein said bypassing device includes a first input block for inputting said data by bypassing said holding device, a second input block for inputting said data output by said holding device, and an output block for outputting said data having been input to one of said first input block and said second input block;

said program causing said computer to carry out the steps of:

generating a selection command specifying whether or not to transfer said data by bypassing said holding device in accordance with the frequency of said synchronizing clock signal output by said synchronizing clock outputting device; and

exercising control so as to cause said bypassing device to output from said output block said data having been input to said first input block if said selection command generated in said selection command generating step specifies that said data be transferred by bypassing said holding device, and further to cause said bypassing device to output from said output block said data having

been input to said second input block if said selection command specifies that said data be transferred without bypassing said holding device.